

A New Vining Species of *Swartzia* (Fabaceae, Swartzieae) from the Venezuelan Amazon

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ABSTRACT. *Swartzia barnebyana*, a new legume species with a vining habit from the state of Amazonas in Venezuela, is described and illustrated. The new species belongs to section *Possira*, series *Unifoliolatae*, in which it is closely related to both *S. floribunda* Spruce ex Benth and *S. iniridensis* R. S. Cowan, by its intramarginally interconnected primary veins and its densely strigulose-velutinous pubescence on branchlets, inflorescence axes, and external calyx segments. *Swartzia barnebyana* may be distinguished from both related species mainly by the type and color of the ovary pubescence, shape and size of leaflet blades, number of calyx segments, and absence of pubescence in the internal surface of the calyx.

RESUMEN. Se describe e ilustra *Swartzia barnebyana*, una especie nueva de leguminosa con hábito trepador del estado Amazonas, Venezuela. La especie nueva pertenece a la sección *Possira*, serie *Unifoliolatae* dentro de la cual se relaciona estrechamente con *S. floribunda* Spruce ex Benth y *S. iniridensis* R. S. Cowan por las venas primarias interconectadas intramarginalmente y la pubescencia densamente estrigulosa-velutina sobre ramitas, eje de las inflorescencias y segmentos externos del cáliz. *Swartzia barnebyana* se distingue de las especies relacionadas, principalmente por el tipo y color de la pubescencia en el ovario, la forma y tamaño de la lámina de los folíolos, el número de segmentos del cáliz y la ausencia de pubescencia en la superficie interna del cáliz.

Key words: Fabaceae, section *Possira*, series *Unifoliolatae*, *Swartzia*, Venezuelan Amazon.

During preparation of the treatment of *Swartzia* Schreber for the *Flora of the Venezuelan Guayana* (Cuello & Cowan, 1999), a number of undetermined taxa were set aside for further study. One of these, represented in the mentioned treatment as "Swartzia sp. E" (1999: 405), turns out to be an undescribed species for which a name and description are provided in this article.

Swartzia barnebyana Cuello, sp. nov. TYPE: Venezuela. Amazonas: Atures, Serranía Batata, 55 km al SE Puerto Ayacucho, 2 km al NE de Salto Colorado, Caño Colorado sobre corazas lateríticas, 5°33'N, 67°08'W, 550 m, Oct. 1989 (fl), Elio Sanoja, Angel Fernández & Manuel Yáñez 3371 (holotype, PORT; isotypes, MO, VEN). Figure 1.

Haec species venis primariis prope marginem conjugatis atque ramulis inflorescentiae axibus et calycis segmentis extus dense velutinis ad *Swartzia floribundam* et *S. iniridensem* comparabilis, sed a prima foliolis margine planis (nec revolutis) et ovario ventraliter pubescente (nec glabro), a secunda ovario in uno margine barbato trichomanibus infuscatis (nec sericeo), ab ambabus calycis segmentis intus glabris et foliolis multo majoribus diversa.

Vine or sarmentose tree; branchlets terete, densely strigulose-velutinous; stipules caducous, 3–4 mm long, narrowly lanceolate, acute, densely pilose-velutinous; leaves unifoliolate, petioles 5–6 mm long, densely strigulose, stipellate apically, stipels caducous, 1–1.5 mm long, subulate to triangular, petiolules 3–5 mm long, 3–5 mm wide, densely pilose-velutinous, leaflet blades broadly oblong (18–)24–40 × 9–14 cm, the margin plane, the base rounded, the apex obtuse to acuminate, the acumen 12–15 mm long, glabrous on upper surface, densely strigulose to glabrescent beneath with the base of the costa densely strigulose beneath, the costa impressed, the primary veins plane on the upper surface, costa and primary veins salient beneath, the primary veins interconnected intramarginally. Inflorescences axillary racemes, sometimes secondarily becoming branchlets with young leaves, also bearing axillary racemes, axes 5–10 × 0.2–0.4 cm, densely strigulose-velutinous, brown, bracts persistent, 3–6 × 1.5–2 mm, triangular to lanceolate, sometimes developing into leaves with blades 2–3 × 1–1.2 cm; pedicels at anthesis 15–20 mm long, in flower buds 7–15 × 1.5–2 mm, densely strigulose-velutinous. Flower buds ovate-oblong in outline, 9–10(13) mm long, 7–8(10) mm wide, densely strigulose-velutinous; calyx segments 5, persistent, densely strigulose-velutinous exter-



Figure 1. A portion of a branch of *Swartzia barnebyana* Cuello with inflorescences. (Drawn from the type Sanoja, Fernández & Yáñez 3371.)

nally, glabrous within; petal white, the claw 4–5 mm long, the blade orbicular, 15–17 mm diam., glabrous; larger stamens 3, the filaments white, 15–18 mm long, the anthers yellow, 4–5 mm long, ca.

2 mm wide, oblong-lanceolate, medium-sized stamens 2, opposite the larger stamens, the filaments 12–14 mm long, the anthers 2–3 mm long, ca. 1 mm wide, the smaller stamens ca. 220, the fila-

Table 1. Characters that distinguish *Swartzia barnebyana* from its closest relatives.

	<i>S. barnebyana</i>	<i>S. iniridensis</i>	<i>S. floribunda</i>
Habit	sarmentose tree or vine	tree 3–4 m	shrub 1.5–3 m
Inflorescence axes	2–4 mm wide, densely stri-gulose-velutinous, dark brown	1–2 mm wide, densely velutinous, sericeous	2–3 mm wide, densely stri-gulose-velutinous, light brown
Bracts	triangular to lanceolate, 3–6 mm long	lanceolate, ca. 1.5 mm long	linear, 1.5–2 mm long
Pedicels	15–20 mm long	9–15 mm long	(6)10–15 mm long
Anthers of small stamens	oblong, apex emarginate to slightly mucronate, 1–1.2 mm long	oblong to lanceolate	oblong-ovate, apiculate, 1–2 mm long
Ovary stipe	11–17 mm long	ca. 9.5 mm long	9–15 mm long

ments 8–10 mm long, the anthers oblong, with the apex emarginate to slightly mucronate, 1–1.2 mm long, ca. 0.5 mm wide; gynoecium with the ventral suture barbate, glabrous elsewhere, stigma punctiform, style 4–6 mm long, ovary elliptic-obovate, laterally flattened, 6–8 mm long, 3.5–5 mm wide, ovary stipe white, 11–17 mm long. Fruits not seen.

Distribution and ecology. *Swartzia barnebyana* is known only from the type and paratype collections. According to information recorded on specimen labels, the new species is a small vining tree or vine occurring in nonflooded forests at 500–600 m elevation in Caño Colorado in the Serranía Batata, which belongs to the Cuao-Sipapo massif in the Venezuelan Amazon. It has been collected in flower during September and October.

The genus *Swartzia* comprises about 150 species distributed in two sections, *Swartzia* Cowan and *Possira* (Aublet) DC., according to Cowan (1967). *Swartzia barnebyana* belongs in Cowan's (1967) section *Possira*, series *Unifoliolatae*, based on its axillary inflorescences, simple racemes, the presence of bracts that are obviously reduced leaves, sometimes with leaflets evident, and unifoliolate leaves.

Due to its intramarginally interconnected primary veins and its densely strigulose-velutinous pubescence on branchlets, inflorescence axes, and external calyx segments, the new species *Swartzia barnebyana* is clearly related to both *S. floribunda*, from the Venezuelan Amazon, and *S. iniridensis*, from Colombia (Cowan, 1967). In contrast to the glabrous gynoecium of *S. floribunda*, the new species, like *S. iniridensis*, has the ventral part of the ovary pubescent. The ovary pubescence in the new species consists of sparse barbate brown hairs, while in *S. iniridensis* it is densely appressed se-

riceous. The new species also differs from the two mentioned relatives by the glabrous inner surface of the 5-segmented calyx. In contrast, *S. floribunda* has a calyx with 4 to 6 segments, villose but glabrescent within, and *S. iniridensis* has 4 segments, sericeous within. Additionally, *S. barnebyana* has the blades of the unifoliolate leaves broadly oblong and much larger [(18)24–40 × 9–14 cm] than the oblong to elliptic-oblong leaflets of both *S. floribunda* [(8)10.5–19(24) × 3.5–6(9) cm] and *S. iniridensis* [16–22 × 5.5–8 cm]. Also, *S. barnebyana* has plane leaflet margins and *S. floribunda* has revolute margins. Other features considered relevant in distinguishing *S. barnebyana* from the related species are shown in Table 1.

The combination of vining or sarmentose habit and unifoliolate leaves suggests a superficial relationship between the new species and *Swartzia palustris* Barneby of the Venezuelan Amazon (Barneby, 1991); however, *S. barnebyana* differs greatly from *S. palustris*, which has glabrate branches and densely golden sericeous inflorescences. The latter species also has smaller, differently shaped leaflets, smaller, ovate bracts (scarcely 1 mm long), smaller globose flower buds (4–5 mm diam.), and a shorter ovary stipe, among other differences.

I am honored to name this species after Rupert Barneby, a great gentleman who dedicated much of his life to the study of legumes and contributed greatly to our knowledge of the genus *Swartzia* in the Venezuelan Guayana.

Paratype. VENEZUELA. Amazonas: Atures, Serranía Batata, 55 km al SE de Pto. Ayacucho, 2 km al NE de Salto Colorado, Caño Colorado sobre corazas lateríticas, 5°33'N, 67°08'W, 550 m, Sep. 1989 (fl), Elio Sanoja, Angel Fernández & Manuel Yáñez 3200 (PORT, MO, VEN).

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